

The Inrichment of the Weald of Kent:

OR,

*A Direction to the Husbandman, for
the true ordering, manuring, and inriching
of all the Grounds within the Wealds of
Kent and Sussex, and may generally
serue for all the grounds in England,
of that nature: as,*

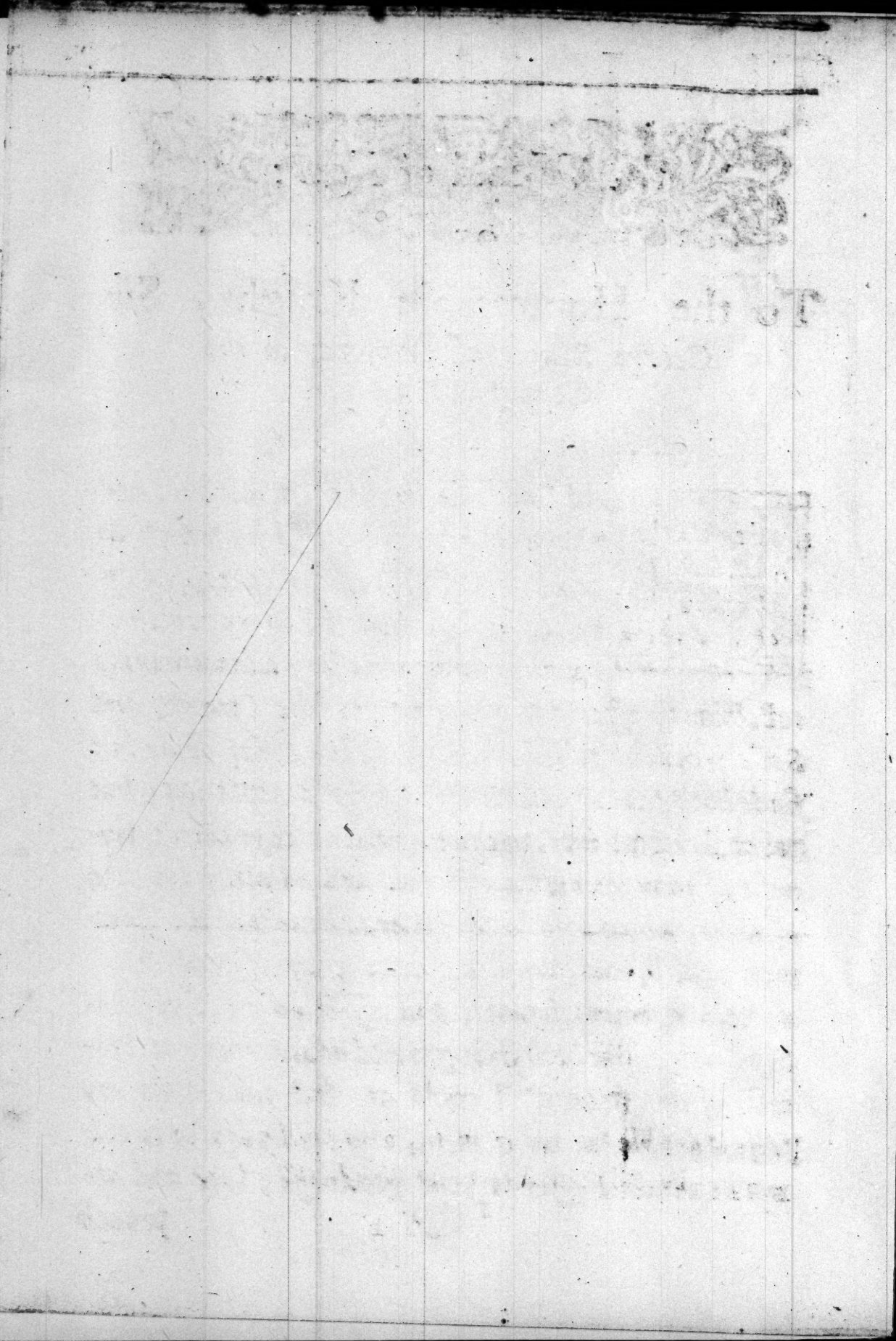
1. *Shewing the nature of all Wealdish grounds, comparing
it with the soyle of the Shires at large.*
2. *Declaring what the Marle is, and the senerall sorts there-
of, and where it is vsually found.*
3. *The profitable vse of Marle, and other rich manurings,
as well in each sort of arable land, as also for the encrease
of Corne and Pasture through the Kingdome.*

Painfully gathered for the good of this Iland, by
a man of great eminence and worth.



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be sold at his shop neere Fleetstreet-Conduit.

1625.





To the Honourable Knight, Sir
George Riuers of Chafford, in the
County of KENT.

SIR,



*Ad I no scale (more then this bare and
plaine moulded Epistle) by which to
come to your Worships eares, yet in
respect of the honest Liuey which it
carries (being necessary and busbandly
collections, especially gathered for the Country and
Soile wherein you liue) I know, it cannot chuse but
finde both fauour and mercy in your acceptation; but
when I call vp into my consideration, the great worthi-
nesse of your experience in this and all other the like
affaires, which tend to the generall benefit of the Com-
mon wealth, and weigh the excellency of your wise-
doms, iudgement, bounty, and affection vnto hospita-
lity (which giue both strength and aduancement to pro-
iects of this nature) I could not but take vnto my
selfe a double encouragement, and boldly say vnto this
worke which I offer to your goodnesse; Goe and ap-
proach*

The Epistle Dedicatory.

proach with all thy sweetnesse before him, he that so perfectly knowes all which thou canst or wouldst discover; he that is able both to correct and amend any thing that is imperfect in thee, hee, for vertues sake, will neuer forsake thee. Beleeue mee (worthy Sir) should this subiect wish it selfe a Patron, I doe not thinke, it could wish beyond you; for you are a volumne full of all that of which it intreateth: witnesse your yeeres, your place, your supportation of the poore, and your continuall employments; with any of which, there is not (of your Ranke) a second liuing in your Country, to walke hand in hand with you; Being then (deare Sir) the oldest and best friend to your Country; forsake neither her, nor this which comes to serue it; and though in this Glasse some lineaments may appeare imperfect, yet by the helpe of your fauour (though little be exact or most excellent) nothing shall bee grosse or unworthy the suruay of your worthier patience. And so I rest,

Your Worships to be commanded,

R. 1.



A discourse of the Weald of Kent ; and a comparison of the arable Lands therein , with the other parts of the Shire : Together with some necessary counsels for the ordering and enriching of the Marleable Lands in the Weald, or generally in any part of this Kingdome.



HE Weald of *Kent* is the lower part of that Shire, lying on the South side thereof, and adioyneth to the Weald of *Sussex*, towards the West. Further additions.

This Weald both in *Kent* and *Sussex*, was sometimes all (or the most part) woody, wilde, and (in the first times) vninhabited; and from thence tooke the name of Weald from the *Saxon* word, *Weale* or *Yeale*, or *Weald*, which signifieth a woody Countrey, or Forrest-like ground. The *Britons* called it *Andred*, which signifieth Greatnesse or Wonderfull, and in Latine it was called *Saltus Andred*, (that is to say) the Chase or Forrest of *Andred*, by reason of the great circuit, or large bounds thereof.

Touching the true boundary or limits of this Weald, there haue bin diuers opinions, and most of them various and much differing both in place and quantity; but that which is the neereft and best allyed vnto truth, both according to the opinions of *Affertus Meneuensis*, *Henry of Huntingdon*, and others of most credible report, is; that it extendeth from the Town of *Winchelsey* in *Sussex*, an hundred and twenty miles in length towards the West; and

thirty miles in bredth towards the North. Now, although this report be most agreeable vnto verity, yet who knows not, that curiosity may raise vp many obiections to withstand it; and therefore Master *Lambert* in his Perambulation of *Kent*, hath prescribed the best and most infallible way to finde out the true and certaine bounds of this Weald, to be only by Iewry, or the verdict of twelue men impannelled, for that purpose; cyther in case of controuerfie, or other particular search; & this hath bin in these later times brought forth most plentifully; for it hath bin found by diuers late Verdicts, vpon especiall and most necessary occasions, that the Weald of *Kent* is truely Master *Lamberts* second step in his Perambulation of *Kent*, reaching from *Winchelsey* in *Sussex*, and that Hill there, vnto the toppe of *Riuers-Hill* in *Kent*; and neyther farther towards *London*, nor shorter towards *Tunbridge*; which agreeth so perfectly with the former limitations, that both may be receyued as most true and sufficient.

This Weald was for many yeeres held to be a wilde Desart, or most vnfruitfull Wildernesse (as write the Authors before mentioned) and indeed such is the nature and disposition of the Soyle thereof to this very day: for it will grow to Frith or wood, if it bee not continually manured and laboured with the Plough, and kept vnder by Tillage, so as it may truely be said of it, *Inculta parantur vomere Silue*. It is through-out (except in very few places adioyning to Brookes or Riuers) of a very barren nature, and vnapt either for Pasturage or Tillage, vntil that it be holpen by some manner of comfort, as Dung, Marle, Fresh earth, Fodder, Ashes, or such other refreshings; and that seemeth to haue been the cause for which in old time it was vsed as a Wildernesse, & kept for the most part with Heards of Deare, and Droues of Hogs, as is specified in diuers historicall Relations.

And

And as there bee yet remaining in *Sussex* diuers great Forrests, and sundry Commons or Wastes, hauing five or sixe miles in length, which for the most part are not fit to be manured for Corne, and yeeld but little profit in pasture; so haue there been also in *Kent* (within our memory) a great number of wooddy and ouer-growne grounds, conuerted of late to Pasture and Tillage, euen after such a manner as in the said Perambulation is testified, where it is said, that although the Weald of *Kent* belonged to sundry knowne owners long since, yet was it not then allotted into particular Tenancies, as the other parts of the Shire were, but it was, in processe of time, by little and little gained, as men were contented to inhabit there, and to rid it of the wood; And hereof it is also, that besides sundry whole Parishes which be named Dennes or Low places, as *Tenderden*, *Marden*, *Beneden*, and sundry others, there be moreouer many smaller portions, almost in euery part of the Weald of *Kent*; which hee likewise called Dennes; as the Denne of *Cranbrooke* in *Cranebrooke*; the Denne of *Hawkehurst* in *Hawkehurst*, and such others; the which (as it seemeth) were at the first vndertaken to bee manured by sundry particular persons, whose names were then taken from those very Dennes, and continued many yeeres together, as by ancient euidences it doth yet appeare, howsoeuer the age of long time hath now almost worne and consumed them all out of knowledge. Neither doth the Weald of *Kent* containe so many great Mannors or Courts (for the proportion of the largenesse) as the rest of the Shire doth, but was appertaining, for a great part thereof, to sundry of those Mannors which doe lye at large dispersed thorow the Shire; whereof each one had a great portion in the Weald, which both in the book of Doomes-day, and in sundry the Court Rolls, and Rentals,

tals, passeth by the name of Weald, and *Silua Porcorum*, or Swine gatts, which were granted to diuers of the Farmers and owners of sundry Tenancies, which did belong vnto those Dennes, and other Lands within the Weald.

And albeit these Dens be for the most part good large portions of Land, that be now broken into many seuerall possessions, so as the same one Denne sufficeth 20. householders at this day, yet it is very likely that each man at the first had his seuerall Den wholly and vnbroken, whereof he and his posterity beareth name, vntill that the same was by the custome of *Gauilkinde*, by sale or by exchange diuided and distributed amongst others into parts, as wee doe now see them. But howsoeuer this Weald be of it selfe vnfruitfull (as I said) and of a barren nature, yet so it hath pleased the prouidence of the Almighty to temper the same, that by the benefit of Margle or Marle (as it is commonly called) it may be made not onely equall in fertility with the other grounds of the Shire, as well for Corne as Grasse, but also superiour to the more and greater part of the same. The which manner of bettering the ground is not now newly discovered, but was the ancient practize of our Fore-fathers many a yeere agoe, as by the innumerable Marle-pits digged and spent so many yeeres past, that trees of 200. or 300. yeeres old, doe now grow vpon them, it may most euidently appeare, besides the which we haue mention of Marle in bookes of gainage or husbandry, that were written in the dayes of King *Edward* the 2. or before, howbeit the same manner of tillage, by meanes of the ciuill warres, maintained many yeeres as well in the time of the Barons warres, as of the warres betweene the house of *Yorke* and the Family of *Lancaster*, was so giuen ouer, and gone out of vse, vntill these 30. or 40. yeeres, that it may be said to haue beene then newly borne

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marle is an-
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continued,
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borne and reuiued, rather then restored, because the very true art of enriching the ground by *Marle*, seemeth to lye hidden in part, as yet not to be discovered to the full: for in this short time we haue scene many arable grounds, which for sundry yeeres after the marling of them, haue plentifully borne Wheat and other Graine, to be now become vnfruitfull, and so will they continue, albeit they should be now marled againe. And this commeth to passe by the ignorance of the right manner of ordering the *Marle*, which is as strong and chearefull as euer it was before, howsoeuer it worketh not his naturall effect, through the vnskilfulnesse of the Husbandman, that both wasteth the *Marle*, and loseth withall his time, his labour, his cost, and the profit of his ground. I cannot deny but a man shall see some grounds, of nature fit to take *Marle*, and of situation so neere to *Marle*-pits long time opened, that they might be marled plentifully with little charge, and haue beene heretofore marled indeed, and yet the same to lye now vnploughed, and not onely barren of themselues, but also vnapt for *Marle*, and vn capable of amendment by Tillage: but, I must say withall, that albeit the men in those former Ages had the right ordering of *Marle*, yet were they not all good Husbands alike, neyther doth the Field ioy alike vnder the Farmer, and vnder the very Owner of the same, the one seeking the very vttermost gaine that may be made during his short interest, and the other indeuouring to perpetuate his commodity, euen to the end of his estate, which hath no end at all, so that through vnskilfulnes of the one, and Greedinesse in others, the ground may sooner be crāmed to death with *Marle*, then it shall be made the better or fatter by it. The reason whereof I will reserue, vntill that I shall haue cause to teach in particular, after what manner

and measure the ground is to be marled. In the meanwhile, I will open the nature and conditions of this wealdish ground, comparing it with the Soyle of the Shire at large, and afterward declare vnto you what the *Marle* is, and what sorts thereof there be vsually found in the Weald of *Kent*; and lastly, enter into the true and profitable vse thereof, as well in each sort of arable Land, as also for the increase of Corne and Pasture thorow the Kingdome.

The arable ground of this Weald hath commonly a fleet and shallow Mould to be turned vp by the Plough, so as in many places the dead Earth or Mould is within three inches of the face of the ground, and in the best places, the good Mould exceedeth not six inches in depth at the most, and therefore it wanteth conuenient substance to nourish Corne any long time, but will faint and giue ouer, after a Crop or two; for the which reason also, it cannot yeeld any sweet or deepe Grasse. Besides this, the Weald hath many copped or hillish grounds, out of which there doe many Quits or Springs of water issue, that make it cold and barren; and from these Hillocks, the best part of the good Mould is washed downe into the Water-courses and Dikes that bee made to diuide and draine the Land. Furthermore, the Weald is diuided into many small inclosures, the biggest sort (for the most part) of which, are betweene sixteene Acres and twelue in quantity, and thereby hath it many Hedges and Trees, which in vnseasonable weather do keepe both the Sunne and Winde from the Corne, so as for want of that succour and comfort, it groweth, and many times rotterh the Earth, so that it carneth not, nor eareth, nor prospereth not kindly many times. And these small Closers are caused by this, that men are not able to marle any great
part

part or quantity of ground at once ; and hauing marled a little, they are desirous to sow it with Corne : for the preservation whereof, as also for draining it, they are inforced to make so many and small seuerals : for all which reasons it is plaine, that there is little good arable Land there, and rarely any good Pasture, those onely places excepted, which are amended by irrigations of floods, which there is called flowing and ouer-flowing. Contrariwise, the arable Land of the Shire at large, hath a deepe and fat Mould of good Earth, that is able to beare fise or fixe good Crops together without intermission ; and, after three or foure yeeres rest, will doe the like againe, and may so interchangeably keepe that course for euer : yea, there be many grounds that are sowed without ceasing, because the Mould is so deepe, that when the vpper part thereof beginneth to faint and be weary, men can adde some strength of Cattell, and with the Plough goe deeper, and fetch vp a fresh Mould that will continue for a long season. Furthermore, this arable ground is a hollow dry ground, for the most part, on a deepe Clay, that by tillage, and the weather, will become dry and spongy, so as the Raine there washeth in the fat of the Earth, the rather, because it is not so hillish and sliding as the Weald, but more leuell, euen, and champion also, by which the Sunne and Winde doe dry the Corne, and doe make it both carne or eare well, and yeeld a purer flowre then that which is sopped in wet, and hath long time lyen before it bee dried againe. But forasmuch as the great oddes betweene these two sorts of grounds, may be made euen by the helpe of *Marle*, if it be rightly ordered, as I said, I will now shew you what it is, and how many sorts thereof be found in this Weald of our Countrey. *Marle* is indeed, as it is in name, the fat or (*marrow*) of the

earth: for so did the *Germanes*, and so did our elders the *Saxons*, terme it, of the word *Marize*, which wee found *Marrow*, and thereof we call it *Marling*, when we bestow that fat earth vpon our leane ground. *Pliny* saith, That the *Brittanes* (meaning vs) did vse to amend their Land with a certaine inuention which they called *Marga*, that is, the fat of the earth, and it is to be seene in *Conradus Hereshachius*, that the *Germanes* doe vse it to the same end, and doe call it by the same name till this very day: it is therfore a fat, oyle and vnctious ground, lying in the belly of the earth, which is of warme and moist temperature, and so most fertill, seeing that heat and moysture be the father and mother of generation and growth; howbeit this is not a pure & simple marrow, (as that is which lyeth in our bones) but a iuyce, or fat liquor mingled with the Earth, as is the fat which lyeth mixed, and dispersed in our flesh, so as the one may be drawne away, and the other remaine, as it shall anon appeare vnto you.

Fourre sorts of *Marle* be found in this Weald, knowne asunder by the difference of colours, and thereby also differing in degrees of goodnesse one from the other: for there is a Grey, a Blue, a Yellow, and a Red *Marle*, all which be profitable, if they be earthy and fat, or slippery as Sope: and most times little worth, if they bee mixed with Sand, Grauell, or Stone. So the Blue is reputed the best, the Yellow the next, the Grey the next, and the Red lesse durable then the other three; and yet it is thought the Red to be the better, if it be found vpon the Blue or others. These *Marles* doe lye in veines or floores, amongst those Hillocks or copped grounds most commonly, whereof I haue spoken, and doe oftentimes shew themselves at the foot of the Hill, or about the mid-way betweene the foot and the top thereof: some of them haue ouer them a

couer

re sorts
in dark.

1, 2,
3, 4.

couer of ground, which we call Cope, not exceeding 7. or eight foot in depth ; some lie deeper, and other some doe arise, as namely, where the ground lieth not high, and that *Marle* commonly is very good ; and there is in diuers leuell grounds good *Marle*.

And as *Marle* is for the most part of these foure colours, so is arable ground for the most part of these foure sorts following ; that is to say, either a cold, stiffe and wet clay, which is either the Cope of the *Marle*, or lieth neere vnto it, and is therefore commonly called, *The Marle Cope ground*, or a *Haisell* mould, which I count to be one of the best Wealdish Moulds, being a compound Mould, and very good for *Marle*, and will quit the cost very well. Then are there two sorts of sandy Mould, the one being a reasonable good kinde, but not equall to the *Haisell* Mould ; for you shall haue in diuers places of the Weald, this *Haisell* Mould to beare two or three good crops of Wheat being Summer-fallowed, together, which you shall hardly haue of any sandy ground, without mending : but as I said of the better sort of these two kinds of sandy Moulds, you haue commonly very rich Wheat, being well marled, which is not so barren as the other ; but this last kinde of sandy Mould, is a very barren kinde of ground, and hath a very fleet Mould, and you shall haue very Heath grow vpon it in diuers places ; and yet being ordered as followeth with *Marle*, will beare both good Corne and Pasture. And now that we may the better vnderstand how to marle and manure euery of these sorts by it selfe, you must know that the *Haisell* ground being dry, and not subiect to Winter-springs, or teares of water (for, which some call such, A whining or weeping ground) is to be handled thus.

First, plough it as deepe as you can, with the strength

B 3

The order
of the *Haisell*
of mould.

Foure sorts
of grounds.

1.

2.

3, 4.

of eight beasts at the least; and be not afraid to plough vp some part of the dead earth that lieth vnder the vpper good Mould, for the Sunne, the Raine, the Wind, and the Frost, will in time mellow and amend it; and besides that, the Mould: will be the deeper for a long time after, and thereby keepe it selfe the longer from being stiffened with the *Marle*. Then may you bestow 500. Court-loads (as we call them) of *Marle* vpon each Acre thereof, euery load containing 10. or 12. Bushels of eight Gallons, and each Acre containing 160. Rods of 16. foot and a halfe to the Rod. Then also you may chuse whether, at the first breaking vp, you will sow it with Oates, to kill the grasse, or else first marle it, and sow it with Wheat, or otherwise Summer-fallow it, in the May after the Oates, and then *Marle* it, and sow it with Wheat. Vpon that fallow or Gratten (as we call it,) you shall doe well to sow it with Pease, and at Michaelmas following, to sow that Pease-stubble or Gratten with Wheat againe, which also will be the better, if the Summer wherein it carried Pease, were moist, because the Pease being rich and thicke, doe destroy the Grasse, that together with the washing of the fallowes by raine, doth greatly consume the heart and vertue; or, as wee call it, the state of the ground. But if that Summer were [dry, then is a fallow best, because the Sunne with his heat doth much good to the ground, and inableth it the better to beare out the weather in the Wheat season ensuing. If you like to sow it, as I said, with Pease, sow them as early and timely as you may, for they will be so much the sooner haruested, and then also you may plough or stir your Gratten the sooner, wherby it will bee the better hardened to beare out the weather in the time of sowing of your Wheat: but I doubt, Pease doth somewhat stiffen it.

Two

Two bushels of Wheat doe suffice for the sowing of an Acre hereof, except it be for the first Crop, after the new breaking vp of the ground; during which time, there is found a Worme, called an Emble, which in *French* signifieth Corne in the ground, being of colour yellow, and of an inch in length, that will eat some part of the Corne; but if you sow it thicke, it will bee both small-eared and thicke, and slender of straw, which the Raine and Winde will beat and hurlee downe, and then it will scarcely rise againe; or if it doe, yet through the neerenesse of the shadow of the Trees and Hedges, that in so small Closes be many, it will rather rot for want of drying, then come to maturity, that is, to perfect hard, and full growne Corne. After your first marling, you must carefully foresee, that you plough not this ground either with deepe or broad Furrowes, but fleet and narrow, lest you cast your *Marle* into the dead mould; for *Marle* differeth much from Dongue in this behalfe; Dongue spendeth it selfe upward, and howsoever deepe it lye, the vertue thereof will ascend: but *Marle* (as saith Sir *Walter Henly*, in his Husbandry) sendeth his vertue downeward, and must therefore bee kept aloft, and may not bee buried in any wise. Furthermore, if your ground be hillish or coppied, it shall be fit that you make your Ridges 7. or 8. foot broad at the least; for in such falling lands, the more broad Furrowes you make, as you must make many, where you make small Ridges, the more of your *Marle* shall be washed and carried into the bottomes. It is good also to draw a crosse or quarter Furrow, and opening the ends of all your land Furrowes into it, to leaue the other ends of your Furrowes stopped, that the water-shoot runne not all the length of the field. Againe, this ground would alwaies bee sowne vnder fur-

row,

Note.

row, and that also before Michaelmas, if the season will so permit : for this ground (if it be well husbanded) will bee mellow and hollow, or loose, whereby through Raine and Frost, it would sinke downe from the root of the Wheat; if it should bee sowne aboue Furrow, the which being vncovered, must needs bee bitten and killed with the cold. It is also very fit that you harrow not this sort of ground too small, but that you leaue the clods as big as a Bowle, the which being mouldred with the frost, will both couer and keepe warme what is vnderneath it. Moreouer, it shall be good, that vpon some faire and dry day, in the beginning of March, you put your focke of Sheepe into your Wheat, that with their trampling vpon it, the Corne may be well and fast closed with the earth; yea, & presently after (if it wil beare foot) you may roll it as you doe Barley, whereby both the Clods shall be broken, and the Gratten or stubble shall be more euen and ready for the Mower. Generally you must vnderstand, that after you haue bestowed your *Marle* in the field, you ought to let it lie vnspred abroad, vntill you be ready to plough, and then immediately after the spreading of it, turne it into the ground with the Plough; for otherwise, if it should lie long spred in the field, the Sunne will spend no small part of the fattenesse thereof, although I know many desire it, because it will be the smaller being burned with the Sunne, which I like not. And therefore also no good Husband will carry and spend his dongue in the time of Summer, except he doe presently withall plough it into the ground; for although the Mould of the arable Land it selfe will take good, if it be turned to the Sunne, which will both dry and fasten it, yet the matter fareth farre otherwise with the *Marle*, from which if the Sunne shall draw and sucke the

the fat moisture that maketh the Land fertile, then becometh it (as *Columella* speaketh) of the worst sort of ground, *Solum siccum, pariter & densum & macrum, quod siue exerceatur, siue cessat, colono refugiendum est.* It becommeth (saith he) a dry, thicke, and leane Clod, which whether it be tilled or laid to rest, must be forsaken of the Husbandman, as vnprofitable. And now your Haisell mould being thus marled, ploughed, sowne, and manured, you may not charge with Wheat aboue twice, and then must it rest 5. or 6. yeeres together; all which time it will beare a very good and sweet Pasture, well set with a white Clouer, or three-leaved grasse, most batning and profitable, both for Sheepe and Bullocks. After those yeeres ended, it will grow to some Mosse, or wil peraduenture cast vp Broome, and then it is time to breake it vp, and sow and handle it as before, for two other Wheat seasons or Crops, leauing it a Wheat-Gratten or stubble, rather then with an Oat-Gratten or stubble, which burneth the Land being marled. Being thus interchangeably sowed and rested, your Haisell Mould will continue good arable and Pasture, by the space of 30. yeeres together, whereas if it should be continually sowed, 6. 7. or moe yeeres together without rest, it will become vtterly vnfruitfull, both for Corne and Cattell also. Neither will it any thing auaile to marle it ouer againe when it is so decayed, because the former *Marle* hauing his iuice exhausted by continuall Tillage, whereof the Corne sucketh one part, and the Sunne, Winde and Weather dryeth and wasteth the rest, is but a dead Clod (as I said) that is not capable of new *Marle* to amend it, nor casteth any profitable grasse at all; for prooofe hereof, I my selfe, seeing that the common earth of High-waies, were by treading of Cattell, washing of Raine, and the drying of the Sunne and weather,

ther, it lay separated from that naturall iuice which it hath in the pit, and spreading it vpon the ground, I saw that the land was not onely not amended, but much the worse by it. And now for an end of handling this sort of Haifell ground; if it shall appeare vnto you, that 500. loads of *Marle* vpon the Acre, haue clanged, stiffened, and too fast bound your land (as indeede the nature of *Marle* is to binde and to stiffen) then take you some of these waies to helpe it: either rest it 4. or 5. yeeres, or fodder vpon it before you breake it vp with so many Cattell as you may; or take the vppermost part of your Ditches or Forelands, or waste places of your fields, which you may mingle with Dongue, and which, before you sow your Wheat, you may lay vpon your fallow, and stir it in with your Plough, and by this you shall both loosen your *Marle*, and refresh your ground, so that within 40. yeeres the Mould of your ground will cleane eat vp and swallow the *Marle* that you lay vpon it; and then become hungry, and as capable of *Marle* againe as it was before at the first. And by this also, you may see the very cause for which it is good not to sow your marled Land continually, but to pasture it by turnes and so giue it rest; namely, because the continuall ploughing doth exhaust and spend the fat of the *Marle*, leaving the drossie, dry, and fruitlesse parts thereof, to lie and couer the face of your ground; whereas Pasturage, through the donguing, treading, & foddering of Cattell, doth increase a new Mould, which mingling it selfe with the dead Mould, doth in the end giue some life and heart vnto it. And therefore these Farmours and owners that haue beene at the cost to marle their ground, and will not forbear to till it, but hasting to raise their charge, doe thereby vtterly strike it with barrennesse, are like to *Aesops* man, who ha-

uing

uing a Henne that layed him euery day a golden Egge, and being greedy to haue all the gold at once, did therefore kill the Henne, thinking to haue found her bellic full of gold, and so was both defrauded of that hee looked for, and lost also what hee had before. Hitherto of the nature, ordering and marling of this Haifell ground. Generally now for the continuall fallowing and stirring thereof, you must vnderstand, it may neither be fallowed wet, lest it answer more Grasse then Corne; nor yet so dry, that the dead bottome swell vp, as in great drought it will, and swallow the good Mould that lieth aboue, and therefore binde not your selfe to any precise time of any moneth, but the opportunity either in May or Iune, as you shall finde the weather to haue prepared it for your desire. In the like temper you ought to stirre it after a showre, after Saint *Iames* his day, or in the end of Iuly; for so will it be dry and hard before the time of sowing, whereas if it bee stirred later, euery small Raine will distemper it into Dirt or Mire, by reason of the tenderesse thereof, and then can you not fitly bestow your Seede vpon it.

The *Marle Cope* ground followeth, which is most commonly (as I said) a stiffe, wet, cold Clay, and not so fit as the former to bee marled for Corne, except in some few flete places thereof, but yet it may serue for Pasture or for Oates; such of them as bee marled, must be fallowed flete or shallow, lest the *Marle* become drowned in the wet: then being marled, they may in dry Summers (and not ouer-moist Countries) beare Wheat in some mediocrity. Three hundred loads at the most of *Marle* are sufficient for an Acre of this kinde, and two bushels and a halfe of Wheat will sow

The order
of the *Marle*
Cope ground

the same, which must be cast about Furrow fourteene or twenty daies before Michaelmas. It requireth round, high and narrow Ridges, and that the water-Furrowes be stricken somewhat deepe, the better to conueigh moisture from the Corne, and that it be left cloddy as much as may be : and yet to say the truth, such as will conuert this sort of ground to tillage, must prouide a greater quantity of rich ground or Greet (as wee tearme it) and of fat Dongue, then of *Marle* it selfe, to amend this Land withall. But if there bee any ground that is light and whining, or weeping, because of Springs that are therein, and therewith doth cast vp Rushes, let that be marled vpon the greene land with foure hundred or five hundred loads vpon the Acre, about the latter end of Summer ; for so will the *Marle* sinke into it, and cast vp a sweet grasse for eight or ten yeeres together, and vntill that the *Marle* be sunke so low, that another sword or crust of earth bee growne ouer it, and then is it fit time to plough it, but yet very fleet and narrow, for so will it beare good Oates ; but if it bee so wet that you cannot aduenture to sow your Wheat vpon it, because the Rushes bee not killed with this first ploughing, then may you sow it againe with Oates, drawing good water-furrowes to draine it, because it will be the wetter for ploughing, and thereby the *Marle* also will the sooner lose his force ; thus doing, let it lie to Pasture againe.

weed. There be some other grounds of the *Marle* Cope, which carry a fowre Grasse, and the Dyers Weed (commonly called Greening weed) and hauing a great tore thereof, the which also may be amended by three hundred or foure hundred load of *Marle* vpon the Acre of the greene Land : for the *Marle* will both rot the tore or

vesture thereof, and also inrich the Mould very much; so as it will answer good Pasture twelue yeeres after: and when you shall perceiue that the *Marle* is well sunke, then may it bee ploughed fleet and narrow, sowed with Oates, and fallowed; so may it both beare good Wheat, if it finde a good season, and bee the richer a long time after, partly by the benefit of the *Marle*, partly by the rotting of the roe, and sword, and partly by the dongue and water of the Cattel that pasture vpon it: for the sweeter the Pasture is, the more Beasts it feedeth, and the more beasts it beareth, the more it selfe is amended by it.

Touching the fallowing of this ground, gre. heed is required: for as it swelleth more then the Haifell ground, if it be taken hard and dry, so is it more grassie then that, or the sandy Soyle, if you fallow it wet: The season therefore followeth commonly in Aprill, or in the beginning of May, for to fallow it, and to stirre it about Midsummer, or so soone after as the Raine shall haue prepared it meet for your vn-shod Oxen to labour vpon it. Many men fearing to hit the right season for this ground in the Spring of the yeere, doe make it ready by a Winter fallow before Christmas, and by stirring it before Midsummer, if they may; which manner is not to be misliked.

Lastly, commeth the two sorts of sandy ground, and grauelly Mould; the one being to be ordered much after the Haifell Mould, sauing he would haue somewhat more *Marle*, and also would be fauoured more in the often tillage, then it: for the Haifell Mould will beare or indure more tillage then the Sand. But this last sort of sandy ground, being a very staring Sand (as we vse to call it) for much of it will beare Heathe, being of it selfe very barren,

The order
of the sand
Moulds.

ren, and very fleet or shallow Mould, and ouer-hot and dry, and, by reason of that extremity, is vnfertill, except it be marled very plentifully. And therefore when you breake vp this ground, plough it as deepe as you may, not fearing to cast downe the best Mould thereof, because the *Marle* will pierce thorow, and sinke downe into it. An Acre of this ground requireth five hundred or sixe hundred loads of your *Marle* at the least. Sow alwaies vnder-furrow about Michaelmas, with two Bushels and a halfe vpon the Acre, which it will better carry then the Haisell ground: for although the Straw be small, yet will it bee harder, and stand better then that of the other. The worme whereof I spake, will bee busie with that, that groweth on this sort of ground, vntill that the heat thereof be somewhat asswaged by the *Marle*. If your ground be hilly, make your Water-furrowes in such sort, as I haue said before, for the sauing both of your *Marle* & Mould; harrow it very little, leaue it as cloddy as you may. After that you haue taken a Crop from it; fallow that Wheat Gratten or Stubble in May; after that, stirre it also, and then, about Michaelmas, sow it with Wheat againe: for it is not yet rich enough to beare you good Pease. This done, let it rest foure or five yeeres, and if it send vp any plenty of Broome, cut or pull them when they bee of some meane bignesse, but plough not the ground, vntill it haue taken such rest, and after it, you may well breake it vp of new, and sow it with Oates: which Oate Gratten or Stubble, you must Summer-fallow, when it is at the Haruest; and then if you desire to haue it in good heart, you must marle it with three hundred or foure hundred loads vpon the Acre againe. After this Crop thus taken, rest it five or sixe yeeres, and then take one Crop more of Oates from it, and, after a Summer-fallow, sow it with
Wheat,

Wheat, and suffer it to ly a Wheat Gratten or Stubble, till it shall haue rested as before, is appoynted for the Haifell ground, and so will it be the better thirty or forty yeeres after the marling. Wee haue in this Weald a sandy and grauelly ground that is wet and weeping, the which is scarcely worth the marling, except the neerenesse of the *Marle*: and thereby the small cost and charge thereof, may intice a man to bestow the cost vpon it with *Marle*, and then the best way is to marle vpon the greene Land, or vpon a fallow, with fise hundred loads or more vpon the Acre, or rather to take the profit thereof by Pasture then by Tillage: for it will hardly beare good Corne, which is soone killed with the wet vapour that is continually sent vp from the wet Springs that lyē vnder it. This sort of ground is to bee fallowed, when it is both hard and dry, because it swelleth not as doth the Haifell Mould, and may therefore be taken in Iune, if former faire weather bring it not to a dry season; and it is to bee stirred also after a showre, in the like plight as the Haifell mould before. Your marleable grounds being ordered in this wise, seuerally set downe for each kinde of them will continually stand fruitfull eyther for Corne or Pasture: and albeit the high prices which Corne hath of late yeeres carryed, may allure some men to sow Corne incessantly, and thereby to spend their *Marle*, and to choke their arable in the end, yet I doubt not but the wiser sort can see that it is much better to maintaine their grounds hearty and in good plight for euer, then to rayse a short gaine, that wil bring a long & perpetual losse vpon them, the rather also, because that Butter, Cheese, and the flesh of Beeffe and Mutton, be aduanced in price equally, if not beyond Wheat, Rie, Barley, and the other Graines. Howbeit a good Husbandman will make his
profit

profit of them both : for if hee haue one hundred, or one hundred & twenty Acres of this Wealdish arable, he will so marle and manure them , that diuiding his Land into fise or sixe equall parts, he may continually plough twenty or fise and twenty Acres for Corne, and yet lay to Pasture the rest by turnes : so that by the help of his *Marle*, his Land shall be continually rich and profitable, both in the one and other of them. And as thus I haue spoken of the Weald, describing the nature and property thereof: so may euery man of discretion and iudgement, which shall meet with earth of the same quality and condition (in what part of this Kingdome soeuer) make application of these Rules before rehearsed, and no doubt but the profit will make both the labour and cost, profitable and pleasant.

The seuerall wayes, according to the opinions of Writers; and the certaine waies, according to the experience of Husbandmen, for the destruction of Moles, or Moales, which digge and root vp the Earth, and how to reduce and bring the ground to the first goodnesse, hauing been spoyled by them.

IT is needlesse eyther to describe the nature and quality of this Vermine, or the iniury and hurt which they doe to the Husbandman, Gardener, and Planter, since no Countrey is exempt from their annoyauce: but touching the remedies, they are of greater secrecie, and therefore I thought good in this place to insert them.

The ancient Writers are of diuers opinions touching the manner of destroying this creature, and therefore haue left vnto vs sundry Medicines how to worke the same : amongst the which, one writeth, as an approued experiment, that if you take Walnut-shells, and fill them with Brimstone, Chaffe, and Petro-

Petrofin, and then setting them on fire, put them into holes or trenches, thorow which the Moale palleth, and the very smell or stinke thereof will poyson them; so that if you digge, you shall finde them dead in their holes.

Another affirmeth, That if you take Brimstone, and danke stinking Litter of Horses, and burne it in the holes or haunts of the Moales, it also will impoyson them; so as you shall finde they wil come out of their Caues, and lye dead vpon the greene Grasse.

A third affirms, That if you take greene Leekes, Garlicke, or Onyons, and chopping them grossely, thrust it into the hoales, and the very fume or sauour thereof will so astonish and amaze the Moales, that they will presently forsake the Earth, and falling into a trance, you may take them vp with your hands. Now there is not any of these Medicines which can bee disallowed: for there is no doubt but that they will worke the effects spoken of, if the Moale can be brought to take a full sent thereof: but it is a Vermine curious of sent, and passing quicke of hearing, and being in a spacious ground, will preuent these baits; and therefore they are rather to be applyed for Gardens or little grounds, where there is but a Moale or two, then in large Fields, where there be many hundreds.

To conclude, for this matter of Medicines, or for the helping of Gardens, Hopyards, or any small spot of ground, there is not any thing held more auayleable, then to sow in that place the Hearbe called *Palma Christi*: for it is found by certaine experience, that wheresoeuer that Hearbe groweth naturally of it selfe, or otherwise is eyther purposely sowne or planted, there in no wise will any Moale abide.

Thus much I thought good to shew you for the vse of Medicine, and for clearing of small grounds: now for the annoyances which happen to great, large, and spacious Fields, through the multitude of Moales; there are only three absolute wayes for the curing of the same.

The first is, in the moneths of March and Aprill, to view where they cast, and goe about to make an extraordinary great Hill, in which they build them Nests, which is knowne by the

newnesse of the Mould; then looke for the new trench which leadeth to the same; for as shee goeth she returneth: then with your Moale-spade open the trench in diuers places, and then very still and silently, and obseruing to take the winde, to preuent both hearing and smelling, watch the Moale as shee goeth or returneth, which is, Morning, Noone, and Euening, and as soone as you see her cast, strike her with your Moale-speare, made of many sharpe pikes, and so cast her vp, and kill her. Thus haue I seene, by one man, an hundred destroyed in one day.

The next infallible way for the destruction of Moales is: If you can by any possible meanes bring in water to ouerflow and wash your ground, and as soone as the earth is wet ouer, the Moales will come forth of themselves, and you may gather them vp with your hands at pleasure.

The last (indeed as much approued as any) is to take a liue Moale in the moneth of March, which is their bucking or ingendring time, and put it into a deepe brasse Bason, or other deepe smooth Vessell, out of which the Moale cannot creepe, and then at euening bury it in the earth vp to the brimme, and so leaue it, and the imprisoned Moale will presently beginne to strike; or complaine or call, so that all the Moales in the ground will come to it, and tumbling into the Vessell, they are prisoners also, and the more prisoners, the greater will bee the noyse; and the more noyse, the more Moales will come to the rescue, so that I haue seene 50. or 60. taken in one night, and in one Vessell or brasse Kettle.

Now, hauing thus learned how to destroy the Moales, it is meet you also know how to preuent the comming in of forraigne Moales; because though you keepe your ground neuer so cleane, yet if your next neighbour be an ill Husband, his field may soone impoyson yours againe: therefore to preuent the comming in of any forraigne Moale, make but little Furrowes or Trenches about your ground, and scatter in them small round Balls made of Hempseede, or Hempseede and *Palma Christi* beaten together, and you shall not neede to feare the comming in of any neighbour-Moales, how many soeuer there be about you.

Lastly,

Lastly, for the reducing or bringing the ground to the first perfection againe (for howsoever some Husbandmen say, Moe Moale-hills, more ground; yet tis certaine, that moe Moale hills, lesse good ground) for neuer yet was sweet grasse: seene on a Moale-hill; therefore to bring it to perfection, which I meane, to be Meadow-ground, or ground to be mowne, which Moale-hills cannot be: you shall first with a sharpe Paring-shouell, pare off the swarth about three fingers deepe, for feare of hurting the roots of the grasse; and then the swarth taken off, dig away the rest of the Mould, and scatter it as small as you can round about the Hill, then take the greene swarth, and cutting it artitificially, lay it close, and fast, and leuell, where you tooke away the Mould, as if there had neuer beene Hill there: and thus doe to all your Hills, though they be neuer so innumerable; and after all your ground is leuelled, as soone as the first shewre falleth, run all your ground ouer with a paire of backe-harrowes, or an Harrow made of a Thorne bush, and it will breake the Mould as small as ashes, which will so comfort and refresh the root of the grasse, that it will grow in infinite abundance; and the sowrenesse, which was caused, by reason of the Hills, will come againe to a perfect sweetnesse, and the Meadow will be more fruitfull then before by many degrees. And thus much for the destruction of Moales, and reducing of the earth to his first goodnesse.

FINIS.
